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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/715,091	11/17/2003	Bradford G. Corbett JR.	20470.015-AP	3254

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EXAMINER	
STAICOVICI, STEFAN	
ART UNIT	**PAPER NUMBER**
1732	

SHORTENED STATUTORY PERIOD OF RESPONSE	MAIL DATE	DELIVERY MODE
3 MONTHS	02/07/2007	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

Office Action Summary	Application No.	Applicant(s)	
	10/715,091	CORBETT, BRADFORD G.	
	Examiner	Art Unit	
	Stefan Staicovici	1732	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *18 December 2006*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-3* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-3* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

Response to Amendment

1. Applicant's amendment filed December 18, 2006 has bee entered. Claims 1-3 are pending in the instant application.

Claim Rejections - 35 USC § 103

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

3. Claims 1-3 are rejected under 35 U.S.C. 103(a) as being unpatentable over Corbett, Jr. (US Patent No. 6,328,309 B1) in view of Doolittle (US Patent No. 3,827,660) and in further view of Ohasi (US Patent No. 4,919,297).

Corbett, Jr. ('309) teaches the basic claimed process of installing a gasket in a socket end of a thermoplastic pipe which is used to form a pipe coupling including, providing a mandrel with an inner end and an outer end and having a generally cylindrical outer working surface; installing a gasket at a first circumferential position on the outer working surface, the gasket having at least selected surfaces coated with a spray-on anti-friction coating wherein the spray-on anti-friction coating is applied by spraying on a dry powder followed by heating the powder to cause it to be fixed; providing a retention member at a second circumferential location on the mandrel nearer the inner end of the mandrel, the retention member abutting the gasket in a

normally extended position but being retractable to a retracted position in a subsequent manufacturing step; heating a socket end of the thermoplastic pipe; forcing the heated socket end of the thermoplastic pipe over the working surface of the mandrel and over the gasket with the retention member being in the extended position, whereby the heated socket end of the thermoplastic pipe flows over the gasket to form a retention groove for retaining the gasket and again contacts the working surface of the mandrel; cooling the heated socket end of the thermoplastic pipe; retracting the cooled socket end of the thermoplastic pipe and the retained gasket from the working surface of the mandrel (see claim 1 of Corbett, Jr. ('309)). Further, Corbett, Jr. ('309) teaches that said sprayed anti-friction coating is polytetrafluoroethylene (Teflon™) (see claim 6 of Corbett, Jr. ('309)). Furthermore, Corbett, Jr. ('309) teaches an elastomeric gasket (see col. 4, line 62) and that the anti-friction coating (10) reduces oxidation of SBR materials (see col. 6, lines 52-55). Hence, it is submitted that Corbett, Jr. ('309) suggests that elastomeric gasket is made from SBR materials. Also, it is noted that because Corbett, Jr. ('309) teaches that the gasket has "at least selected surfaces" (see col. 3, lines 42-53) coated with the anti-friction coating, it is submitted that such a teaching includes the situation where the entire gasket is coated with the anti-friction coating.

Regarding claim 1, although Corbett, Jr. ('309) teaches a Teflon™ anti-friction coating, Corbett, Jr. ('309) does not teach a polyurethane anti-friction coating that is also effective to provide oil resistance which is at least as that of nitrile rubber (NBR). Doolittle ('660) teaches that both Teflon™ and polyurethane coatings are used as anti-friction coatings (see col. 4, lines 5-10). Ohasi ('297) teaches that it is well known that, nitrile rubber (NBR) and polyurethane are

equivalent materials in providing similar oil resistance. Further, it is submitted that the price of polyurethane is less than that of nitrile rubber. Therefore, in view of the teachings of Ohasi ('297) that a polyurethane material provides at least the same oil resistance as nitrile rubber (NBR), it would have been obvious for one of ordinary skill in the art to provide the polyurethane coating of Doolittle ('660) as an equivalent alternative to the Teflon™ coating to the gasket in the process of Corbett, Jr. ('309) because, Doolittle ('660) specifically teaches that Teflon™ and polyurethane coatings are equivalent alternatives for making an anti-friction coating and also because, Ohasi ('297) specifically teaches that a polyurethane material provides at least the same oil resistance as nitrile rubber (NBR), hence providing for an improved process. It is noted that said polyurethane coating would withstand temperature, chemical attack and abrasion because polyurethane, like any other polymeric material, to a certain degree has such properties of resisting temperature, chemical attack and abrasion.

In regard to claim 2, because the process of Corbett, Jr. ('309) in view of Doolittle ('660) and in further view of Ohasi ('297) teaches a polyurethane anti-friction coating that is also effective to provide oil resistance which is at least as that of nitrile rubber, it is submitted that said coating has the same properties as those claimed.

Specifically regarding claim 3, Corbett, Jr. ('309) teaches spraying an anti-friction coating by spraying a dry powder.

4. Claims 1-3 are rejected under 35 U.S.C. 103(a) as being unpatentable over Corbett, Jr. (US Patent No. 6,676,886 B2) in view of Corbett, Jr. (US Patent No. 6,328,309 B1) and in further view of Doolittle (US Patent No. 3,827,660) and Ohasi (US Patent No. 4,919,297).

Corbett, Jr. ('886) teaches the basic claimed process of installing a gasket in a socket end of a molecularly oriented thermoplastic pipe which is used to form a pipe coupling including, providing a mandrel with an inner end and an outer end and having an outer working surface; installing a gasket at a first circumferential position on the outer working surface; providing a backup collar at a second circumferential location on the mandrel, the backup collar having an exposed lip portion which abuts the gasket at an acute angle with respect to the outer working surface of the mandrel; heating a socket end of the thermoplastic pipe; forcing the heated socket end of the thermoplastic pipe over the working surface of the mandrel and over the gasket and backup collar, whereby the heated socket end of the thermoplastic pipe flows over the gasket to form a retention groove for retaining the gasket; retracting the backup collar; cooling the heated socket end of the thermoplastic pipe; retracting the cooled socket end of the thermoplastic pipe and the retained gasket from the working surface of the mandrel; wherein the gasket is an elastomeric, ring shaped member having a circumferential contact area and an exterior surface, the exterior surface forming a sloped contact area for contacting the lip portion of the backup collar in complimentary fashion; wherein the sloped contact area of the gasket exterior surface also forms an acute angle with respect to the working surface of the mandrel; wherein the complimentary acute angles of the backup collar and gasket form a wedge shaped contact area which serves to retain the gasket in its initial circumferential position on the working surface of the mandrel as the heated pipe is forced over the mandrel and gasket; the wedge shaped contact area exerting both a longitudinal restraining force along the pipe longitudinal axis and a radial

restraining force which is perpendicular to the pipe longitudinal axis to force the gasket radially inward in the direction of the mandrel as the pipe is pushed over the mandrel.

Regarding claims 1 and 3, although Corbett, Jr. ('886) teaches a rubber gasket, Corbett, Jr. ('886) does not teach an SBR rubber gasket having an anti-friction coating sprayed thereon. Corbett, Jr. ('309) teaches a rubber gasket (see col. 4, line 62) and a Teflon™ anti-friction coating (10) sprayed onto said gasket. Further, Corbett, Jr. ('309) teaches that said Teflon™ anti-friction coating (10) reduces oxidation of SBR materials (see col. 6, lines 52-55). Hence, it is submitted that Corbett, Jr. ('309) suggests that the rubber gasket is made from SBR materials. Also, it is noted that because Corbett, Jr. ('309) teaches that the gasket has "at least selected surfaces" (see col. 3, lines 42-53) coated with the anti-friction coating, it is submitted that such a teaching includes the situation where the entire gasket is coated with the anti-friction coating. Therefore, it would have been obvious for one of ordinary skill in the art to provide an SBR gasket having an anti-friction coating sprayed thereon as taught by Corbett, Jr. ('309) in the process of Corbett, Jr. ('886) because Corbett, Jr. ('309) specifically teaches that an anti-friction coating provides for an improved installation process by reducing the required insertion force for the male, spigot end when entering the female, spigot end and also because Corbett, Jr. ('886) teaches a rubber gasket, hence suggesting the anti-friction coated SBR gasket of Corbett, Jr. ('309).

Further regarding claim 1, although Corbett, Jr. ('886) in view of Corbett, Jr. ('309) teaches a Teflon™ anti-friction coating, Corbett, Jr. ('886) in view of Corbett, Jr. ('309) do not teach a polyurethane anti-friction coating that is also effective to provide oil resistance which is

at least as that of nitrile rubber (NBR). Doolittle ('660) teaches that both Teflon™ and polyurethane coatings are used as anti-friction coatings (see col. 4, lines 5-10). Ohasi ('297) teaches that it is well known that, nitrile rubber (NBR) and polyurethane are equivalent materials in providing similar oil resistance. Further, it is submitted that the price of polyurethane is less than that of nitrile rubber. Therefore, in view of the teachings of Ohasi ('297) that a polyurethane material provides at least the same oil resistance as nitrile rubber (NBR), it would have been obvious for one of ordinary skill in the art to have provided a polyurethane coating as taught by Doolittle ('660) as an equivalent alternative to a Teflon™ coating to the gasket in the process of Corbett, Jr. ('886) in view of Corbett, Jr. ('309) because, Doolittle ('660) specifically teaches that Teflon™ and polyurethane coatings are equivalent alternatives for making an anti-friction coating and also because, Ohasi ('297) specifically teaches that a polyurethane material provides at least the same oil resistance as nitrile rubber (NBR), hence providing for an improved process. It is noted that said polyurethane coating would withstand temperature, chemical attack and abrasion because polyurethane, like any other polymeric material, to a certain degree has such properties of resisting temperature, chemical attack and abrasion.

In regard to claim 2, because the process of Corbett, Jr. ('886) in view of Corbett, Jr. ('309) and in further view of Doolittle ('660) teach a polyurethane anti-friction coating that is also effective to provide oil resistance which is at least as that of nitrile rubber, it is submitted that said coating has the same properties as those claimed.

Response to Arguments

5. Applicant's arguments filed December 18, 2006 have been considered.

6. Applicant argues that the art of record does not teach or suggest, either alone or in combination, a gasket that is "formed of styrene butadiene rubber" (see page 4 of the amendment filed 12/18/2006). Further, Applicants argue that the art of record does not teach or suggest, either alone or in combination, that the "entire outer working surface" is coated (see page 5 of the amendment filed 12/18/2006). However, these argument are drawn to newly presented claim limitations not previously presented that have been rejected in this Office Action as set forth above.

7. Applicant argues that that the prior art of record does not take into consideration using a *less expensive* starting base rubber (emphasis added) (see page 5 of the amendment filed 12/18/2006). However, "[t]he fact that a combination would not be made by businessmen for economic reasons does not mean that a person of ordinary skill in the art would not make the combination because of some technological incompatibility. In re Farrenkopf, 713 F.2d 714, 219 USPQ 1 (Fed. Cir. 1983).

8. Applicant argues that there is no suggestion to combine the references because, (i) Doolittle ('660) does not suggest using its coating in a pipe belling operation and, (ii) Ohasi ('297) does not deal with sealing gaskets used in pipe sealing operations (see pages 5 and 6 of the amendment filed 12/18/2006). In response, it is noted that, "[t]he test for obviousness is not whether the features of a secondary reference may be bodily incorporated into the structure of the primary reference.... Rather, the test is what the combined teachings of those references

would have suggested to those of ordinary skill in the art." MPEP §2145(III), citing, In re Keller, 642 F.2d 413, 425, 208 USPQ 871, 881 (CCPA 1981). The examiner recognizes that obviousness can only be established by combining or modifying the teachings of the prior art to produce the claimed invention where there is some teaching, suggestion, or motivation to do so found either in the references themselves or in the knowledge generally available to one of ordinary skill in the art. See In re Fine, 837 F.2d 1071, 5 USPQ2d 1596 (Fed. Cir. 1988) and In re Jones, 958 F.2d 347, 21 USPQ2d 1941 (Fed. Cir. 1992). In this case,

(a) the main reference, Corbett, Jr. ('309), teaches the process of installing an SBR rubber gasket in a socket end of a thermoplastic pipe which is used to form a pipe coupling, wherein said gasket is coated with a Teflon™ anti-friction coating;

(b) the secondary reference, Doolittle ('660), teaches that both Teflon™ and polyurethane coatings are used as anti-friction coatings (see col. 4, lines 5-10).

(c) the secondary reference, Ohasi ('297), teaches that it is well known that, nitrile rubber (NBR) and polyurethane are equivalent materials in providing similar oil resistance. Therefore, in view of the teachings of Ohasi ('297) that a polyurethane material provides at least the same oil resistance as nitrile rubber (NBR), it would have been obvious for one of ordinary skill in the art to provide the polyurethane coating of Doolittle ('660) as an equivalent alternative to the Teflon™ coating to the gasket in the process of Corbett, Jr. ('309) because, Doolittle ('660) specifically teaches that Teflon™ and polyurethane coatings are equivalent alternatives for making an anti-friction coating and also because, Ohasi ('297) specifically teaches that a polyurethane material provides at least the same oil resistance as nitrile rubber (NBR), hence

providing for an improved process. It is noted that said polyurethane coating would withstand temperature, chemical attack and abrasion because polyurethane, like any other polymeric material, to a certain degree has such properties of resisting temperature, chemical attack and abrasion.

9. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL.** See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Conclusion

10. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Stefan Staicovici, Ph.D. whose telephone number is (571) 272-1208. The examiner can normally be reached on Monday-Friday 9:30 AM to 6:00 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Christina Johnson, can be reached on (571) 272-1176. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Stefan Staicovici, PhD

Primary Examiner 2/3/07

AU 1732

February 3, 2007